

REMARKS

Claims 1-26 were examined and reported in the Office Action. Claims 1-26 are rejected. Claims 9-12 and 22 are canceled. Claims 1, 3, 5, 13, 17 and 24 are amended. Claims 1-8, 13-21, and 23-26 remain.

Applicant requests reconsideration of the application in view of the following remarks.

I. 35 U.S.C. § 103

A. It is asserted in the Office Action that claims 1-16 are rejected in the Office Action under 35 U.S.C. § 103(a), as being unpatentable over U. S. Patent No. 6,114,739 issued to Theil et al. ("Theil") in view of U.S. Patent Application No. 5,760,834 issued to Rostoker ("Rostoker"). Applicant respectfully traverses the aforementioned rejection for the following reasons.

According to MPEP §2142 "[t]o establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure." (*In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)). Further, according to MPEP §2143.03, "[t]o establish prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. (*In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974))." "*All words in a claim must be considered in judging the patentability of that claim against the prior art.*" (*In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970), emphasis added.)

Applicant's amended claim 1 contains the limitations of "[a]n integrated pixel sensor structure comprising: a set of light sensitive diodes including a transparent conductor, the set of light sensitive diodes including an n-layer, an i-layer and a p-layer; and, a protective layer placed above the transparent conductor, the protective layer including a set of echelon diffraction grating elements for producing complementary colors and to protect the set of light sensitive diodes, the protective layer disposed between adjacent echelon diffraction grating elements of the set of echelon diffraction grating elements."

Applicant's amended claim 5 contains the limitations of "[a] system comprising: an integrated pixel sensor structure having: a set of light sensitive diodes including a transparent conductor, the set of light sensitive diodes including an n-layer, an i-layer and a p-layer; a protective layer placed above the transparent conductor, and a set of echelon diffraction grating elements for producing complementary colors and to protect the set of light sensitive diodes, the set of echelon diffraction grating elements placed above the transparent conductor, the protective layer disposed between adjacent echelon diffraction grating elements of the set of echelon diffraction grating elements; and, a post capture signal processing unit coupled to the integrated pixel sensor."

Applicant's amended claim 13 contains the limitations of "[a] method comprising: providing a set of light sensitive elements, the set of light sensitive elements including an n-layer, an i-layer and a p-layer; placing a transparent conductor above the light sensitive element; placing a protective layer above the transparent conductor, and a set of echelon diffraction grating elements for producing complementary colors, the protective layer disposed between adjacent echelon diffraction grating elements of the set of echelon diffraction grating elements, wherein the set of echelon diffraction grating elements to protect the set of light sensitive elements."

Theil discloses an active pixel sensor. The active pixel sensor includes a photo sensor and a transparent electrode is formed adjacent to an I-layer. Theil, however, does not disclose, teach or suggest "a set of light sensitive diodes including a transparent conductor, the set of light sensitive diodes including an n-layer, an i-layer

and a p-layer; and, a protective layer placed above the transparent conductor, the protective layer including a set of echelon diffraction grating elements for producing complementary colors and to protect the set of light sensitive diodes, the protective layer disposed between adjacent echelon diffraction grating elements of the set of echelon diffraction grating elements."

Rostoker discloses an electronic camera including a photosensor array. The photosensor array includes binary diffractive lens elements. Photosensors are disposed on the surface for receiving different portions of the light image respectively such that the photosensors in aggregation receive substantially all of the light image. The camera further includes a liquid crystal panel for displaying a received video signal. The photosensor array is substantially transparent, and the liquid crystal panel is disposed behind and visible through the photosensor array. Rostoker, however, does not teach, disclose or suggest "a set of light sensitive diodes including a transparent conductor, the set of light sensitive diodes including an n-layer, an i-layer and a p-layer; and, a protective layer placed above the transparent conductor, the protective layer including a set of echelon diffraction grating elements for producing complementary colors and to protect the set of light sensitive diodes, the protective layer disposed between adjacent echelon diffraction grating elements of the set of echelon diffraction grating elements."

Therefore, even if Theil were combined with Rostoker, the resulting invention would still not include all of Applicant's claimed limitations. And, therefore, there would be no motivation to combine Theil with Rostoker. Moreover, by viewing the disclosures of Theil and Rostoker, one can not jump to the conclusion of obviousness without impermissible hindsight. According to MPEP 2142, [t]o reach a proper determination under 35 U.S.C. 103, the examiner must step backward in time and into the shoes worn by the hypothetical 'person of ordinary skill in the art' when the invention was unknown and just before it was made. In view of all factual information, the examiner must then make a determination whether the claimed invention 'as a whole' would have been obvious at that time to that person. Knowledge of applicant's disclosure must be put aside in reaching this determination, yet kept in mind in order to determine the 'differences,' conduct the search and evaluate the 'subject matter as a whole' of the invention. The tendency to resort to 'hindsight' based upon applicant's

disclosure is often difficult to avoid due to the very nature of the examination process. However, impermissible hindsight must be avoided and the legal conclusion must be reached on the basis of the facts gleaned from the prior art." Applicant submits that without first reviewing Applicant's disclosure, no thought, whatsoever, would have been made to an integrated pixel sensor structure comprising "a set of light sensitive diodes including a transparent conductor, the set of light sensitive diodes including an n-layer, an i-layer and a p-layer; and, a protective layer placed above the transparent conductor, the protective layer including a set of echelon diffraction grating elements for producing complementary colors and to protect the set of light sensitive diodes, the protective layer disposed between adjacent echelon diffraction grating elements of the set of echelon diffraction grating elements."

Neither Theil, Rostoker, nor the combination of the two, teach, disclose or suggest the limitations contained in Applicant's amended claims 1, 5 and 13, as listed above. Since neither Theil, Rostoker, nor the combination of the two, teach, disclose or suggest all the limitations of Applicant's amended claims 1, 5 and 13, there would not be any motivation to arrive at Applicant's claimed invention. Thus, Applicant's amended claims 1, 5 and 13 are not obvious over Theil in view of Rostoker since a *prima facie* case of obviousness has not been met under MPEP §2142. Additionally, the claims that directly or indirectly depend from amended claims 1, 5 and 13, namely claims 2-4, 6-8, and 14-16, respectively, would also not be obvious over Theil in view of Rostoker for the same reason.

Accordingly, withdrawal of the 35 U.S.C. § 103(a) rejections for claims 1-16 are respectfully requested.

B. It is asserted in the Office Action that claims 17-26 are rejected in the Office Action under 35 U.S.C. § 103(a), as being unpatentable over Theil in view of U.S. Patent Application No. 5,600,486 issued to Gal et al ("Gal"). Applicant respectfully traverses the aforementioned rejection for the following reasons.

Applicant's amended claim 17 contains the limitations of "[a]n integrated circuit die comprising: an image sensing area of the die having a plurality of light-sensitive

diodes formed above a metalization layer of the die; and a protective layer of the die, wherein the protective layer is to protect the plurality of diodes and includes a plurality of echelon diffraction gratings, the plurality of light sensitive diodes have a transparent conductor that forms a top contact of the plurality of light sensitive diodes and wherein the protective layer has a low enough deposition temperature so as not to environmentally stress the transparent conductor, and the protective layer covers a portion of the transparent layer not covered by the plurality of echelon diffraction gratings."

Theil discloses an active pixel sensor. The active pixel sensor includes a photo sensor and a transparent electrode is formed adjacent to an I-layer. Theil, however, does not disclose, teach or suggest "[a]n integrated circuit die comprising: an image sensing area of the die having a plurality of light-sensitive diodes formed above a metalization layer of the die; and a protective layer of the die, wherein the protective layer is to protect the plurality of diodes and includes a plurality of echelon diffraction gratings, the plurality of light sensitive diodes have a transparent conductor that forms a top contact of the plurality of light sensitive diodes and wherein the protective layer has a low enough deposition temperature so as not to environmentally stress the transparent conductor, and the protective layer covers a portion of the transparent layer not covered by the plurality of echelon diffraction gratings."

Gal discloses a color separation microlens where a single micro-optical element is made up of color separation grating integrated with a refractive lens. Gal, however, does not teach, disclose or suggest "[a]n integrated circuit die comprising: an image sensing area of the die having a plurality of light-sensitive diodes formed above a metalization layer of the die; and a protective layer of the die, wherein the protective layer is to protect the plurality of diodes and includes a plurality of echelon diffraction gratings, the plurality of light sensitive diodes have a transparent conductor that forms a top contact of the plurality of light sensitive diodes and wherein the protective layer has a low enough deposition temperature so as not to environmentally stress the transparent conductor, and the protective layer covers a portion of the transparent layer not covered by the plurality of echelon diffraction gratings."

Therefore, even if Theil were combined with Gal, the resulting invention would still not include all of Applicant's claimed limitations. And, therefore, there would be no motivation to combine Theil with Gal. Moreover, by viewing the disclosures of Theil and Gal, one can not jump to the conclusion of obviousness without impermissible hindsight. Applicant submits that without first reviewing Applicant's disclosure, no thought, whatsoever, would have been made to an integrated circuit die comprising "an image sensing area of the die having a plurality of light-sensitive diodes formed above a metalization layer of the die; and a protective layer of the die, wherein the protective layer is to protect the plurality of diodes and includes a plurality of echelon diffraction gratings, the plurality of light sensitive diodes have a transparent conductor that forms a top contact of the plurality of light sensitive diodes and wherein the protective layer has a low enough deposition temperature so as not to environmentally stress the transparent conductor, and the protective layer covers a portion of the transparent layer not covered by the plurality of echelon diffraction gratings."

Neither Theil, Gal, nor the combination of the two, teach, disclose or suggest the limitations contained in Applicant's amended claim 17, as listed above. Since neither Theil, Gal, nor the combination of the two, teach, disclose or suggest all the limitations of Applicant's amended claim 17, there would not be any motivation to arrive at Applicant's claimed invention. Thus, Applicant's amended claim 17 is not obvious over Theil in view of Gal since a *prima facie* case of obviousness has not been met under MPEP §2142. Additionally, the claims that directly or indirectly depend from amended claim 17, namely claims 18-21 and 23-26, would also not be obvious over Theil in view of Gal for the same reason.

Accordingly, withdrawal of the 35 U.S.C. § 103(a) rejections for claims 17-26 are respectfully requested.

CONCLUSION

In view of the foregoing, it is submitted that claims 1-8, 13-21, and 23-26 patentably define the subject invention over the cited references of record, and are in condition for allowance and such action is earnestly solicited at the earliest possible date. If the Examiner believes a telephone conference would be useful in moving the case forward, he is encouraged to contact the undersigned at (310) 207-3800.

If necessary, the Commissioner is hereby authorized in this, concurrent and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2666 for any additional fees required under 37 C.F.R. §§1.16 or 1.17, particularly, extension of time fees.

Respectfully submitted,

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By: _____

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I hereby certify that this correspondence is being deposited with the United States Postal Service as First Class Mail with sufficient postage in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P. O. Box 1450, Alexandria, Virginia 22313-1450 on December 17, 2004.

Jean Svoboda